

Lemma - Smarg Integration Document

Context

Integration of Smarg Video Analytics (VA) is planned for Lemma platform.

For the integration purpose, the first site identified is the Lemma Pune Canteen site where one camera is configured with Smarg agent license deployed on the Lemma media box. And the video data from canteen region has been configured for full time upload (11am to 7pm) at Smarg Video Analytics Cloud Engine. The video data is being analyzed by two areas with the following rules:

1. Canteen Entry: People Counting, Age group (0-15|16-25|26-35|36-55|55+), Gender (Male|Female), Dress Color
2. Canteen Sitting: People Density (in every 1 minute interval), Age group (0-15|16-25|26-35|36-55|55+), Gender (Male|Female)

Once the data gets generated at Smarg VA Cloud end, it would get pushed to Lemma API in 5 minutes frequency. The frequency and durations here are pre-configured. They can be changed by using Smarg Configurator Tool in future. We are open to explore any alternatives too for configuration, for betterment of high cohesiveness and loose coupling in the integration.

Site level Dynamic Configuration

Once the first level integration is working, we plan to have training for Smarg Configurator tool for configuring VA of actual sites which would empower Lemma team to configure variety of site configurations as per need. Smarg Configurator supports all configurable elements of Smarg (like site, camera, area, rules, etc.) and Lemma integration specific elements (like signages, frequency of push data, interval of density/other rules, Video data sampling rate for bandwidth limited sites, etc.).

Smarg Master Configuration API

Exposed by Smarg: Master Signage Configuration to be fetched at Lemma (once for every site)

URI: https://smargtechnologies.in:3015/smarg_ai/siteConfiguration/125

API_Key: SMARG6002A2024LEMMA

GET Method Response:

```
{
  "responsedata": {
    "resultcode": 2032,
    "message": "Data Retrieved Successfully"
  },
  "result": {
    "Signages": [
      {"name": "SignageA", "viewAreas": ["Canteen Entry", "Canteen Sitting"]},
      {"name": "SignageB", "viewAreas": ["Canteen Sitting"]}
    ]
  }
}
```

Lemma Data Push API

Exposed by Lemma: Analytics Data to store and use at Lemma end
(marked post integration scope in **RED** color for now)

URI: <base-url>/smargData

POST body Sample:

```
{
  "siteName" : "Lemma Pune",
  "vehicleCounting": [
    {"DateTime": "2024-08-21T16:08:16Z", "VehicleType": "Car", "ANPR": "MH01CD5209"},
    {"DateTime": "2024-08-21T16:08:16Z", "VehicleType": "Bus", "ANPR": "MH43CD5207"},
    {"DateTime": "2024-08-21T16:08:16Z", "VehicleType": "Truck", "ANPR": "MH11CD4219"}
  ],
  "personCounting": [
    {"DateTime": "2024-08-21T16:08:16Z", "AgeGroup": "26-35", "Gender": "male",
    "DressColor": "Blue", "Area": "Canteen Entry"}
  ],
}
```

```
"personDensity":[
{
count :2,
"persons" :[
{"DateTime": "2024-08-21T16:08:16Z", "AgeGroup": "26-35", "Gender": "Male",
"DressColor":"Blue", "Area": "Canteen Sitting"}
{"DateTime": "2024-08-21T16:08:16Z", "AgeGroup": "26-35", "Gender": "Male",
"DressColor":"Blue", "Area": "Canteen Sitting"}
]
},
{
count :1,
"persons" :[
{"DateTime": "2024-08-21T16:08:16Z", "AgeGroup": "26-35", "Gender": "Male",
"DressColor":"Blue", "Area": "Lemma canteen"}
]
}
]
```

```
"personAttentionSpan":[
<TBD>
]
}
```